Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

general prevalence of the trilacunar trace in the seedlings, and the almost universal occurrence of a single ring of bundles connected at a very early age by cambium. This interfascicular cambium is usually absent in the adult stems of the herbaceous Ranunculaceae, but it is invariably present at some stage in the seedling. The evidence of the origin of herbs from woody plants is increasing.—J. M. C.

Germination of ascospores.—BRIERLY[49] has experimented with the germination of the ascospores of *Onygena equina*, a fungus occurring on decomposing horns and hoofs of cattle, sheep, etc. The results showed that "ripe" ascospores will germinate directly after a prolonged resting period, and that this period may be curtailed or eliminated by treating the spores with artificial gastric juice, but not by subjection to low temperatures. "The full-grown unripe ascospores and the chlamydospores will germinate immediately in the absence of digestive treatment."—J. M. C.

Respiration.—APPLEMAN[50] has investigated quantitatively the relation of oxidases and catalase to the process of respiration in potatoes. He found that there was no correlation between intensity of respiration and oxidase activity, but that catalase activity of the extracted juice of the potato shows a close correlation with the respiratory activity of the tuber. He considers, therefore, that the oxidases are not the controlling factor in respiratory intensity, at least in potato tubers, whatever rôle they may have in connection with biological oxidations.—CHARLES A. SHULL.

History of forest ecology.—In a rather extensive review of the literature of botany and of forestry investigations, BOERKER[51] has attempted to trace the influence of both upon the development of the new phase of science known as forest ecology or silvics. Perhaps the most important part of the paper is that in which he traces the ecological principles which were stated by some of the earlier leaders in forestry, but which have received little attention from their fellow foresters. Of almost equal importance is the rather extensive bibliography.—GEO. D. FULLER.

Wandering tapetal nuclei.—PICKETT[52] has described in detail the differentiation of the tapetum and its subsequent behavior in *Arisaema triphyllum* and *A. Dracontium*. The tapetal cells early show peculiarities of cell wall, cytoplasm, and nucleus. The wall entirely disappears, and the freed protoplasts form a "periplasm" that spreads through the cavity of the sporangium. The forms assumed by the tapetal nuclei, as well as their peculiarities of structure, suggested the possibility of "active migration among the developing pollen spores."—J. M. C.

---

[49] BRIERLY, WILLIAM B., Spore germination in *Onygena equina* Willd. Ann. Botany **31**:127–132. 1917.

[50] APPLEMAN, CHARLES O., Relation of oxidases and catalase to respiration in plants. Amer. Jour. Botany **3**:223–233. 1916.

[51] BOERKER, R. H., A historical study of forest ecology; its development in the fields of botany and forestry. Forestry Quarterly **14**:380–432. 1916.

[52] PICKETT, F. L., The wandering tapetal nuclei of *Arisaema.* Amer. Jour. Bot. **3**:461–469. *pl. 20. figs. 8.* 1916.

Vermont trees.—One of the most recent additions to the rather large series of tree manuals is from Vermont.[53] It closely resembles that from Michigan previously reviewed,[54] but it has been revised and modified to meet the slightly different conditions in the new region. There are two sets of keys, one for winter and another for summer use. These, together with the illustrations, should make the identification of any tree an easy matter.—GEO. D. FULLER.

Fossil Sequoia from Japan.—Miss YASUI has[55] described a new species of *Sequoia* (*S. hondoensis*) from a coal field of Japan belonging to the Tertiary. The genus was recognized, not only by its normal structural features, but also by characteristic wound reactions. This discovery adds to the evidence of the wide distribution of *Sequoia* during the Tertiary, and also adds testimony to the assertion that *Sequoia* has descended from the *Pityoxylon* type.—J. M. C.

The vegetation of New York State.—BRAY[56] has compiled a useful description of the vegetation of New York State, seen from the viewpoint of an ecologist. The state is divided into zones according to MERRIAM'S system, and a map showing the modifications of the zones resulting from differences in altitude and the changes due to soil and to proximity to the Great Lakes is produced. The various forest types are well described.—GEO. D. FULLER.

Anatomy of epiphytic orchids.—CURTIS[57] has published a detailed account of the anatomy of 6 epiphytic orchids from New Zealand. Considerable variation is shown in the extent and distribution of the different tissues, and the paper is full of data that will be useful when the anatomy of orchids comes to be organized.—J. M. C.

---

[53] BURNS, G. P., and OTIS, C. H., The trees of Vermont. Vt. Agric. Exp. Sta. Bull. 194. pp. 244. *pls. 90.* 1916.

[54] BOT. GAZ. **57**:77. 1914.

[55] YASUI, KONO, A fossil wood of *Sequoia* from the Tertiary of Japan. Ann. Botany **31**:101–106. *pl. 4.* 1917.

[56] BRAY, W. L., The development of the vegetation of New York State. N.Y. State Coll. Forestry, Syracuse Univ. Publ. **3**:pp. 186. *figs. 52.* 1915.

[57] CURTIS, K. M., The anatomy of 6 epiphytic species of the New Zealand Orchidaceae. Ann. Botany **31**:133–149. *pls. 7–12.* 1917.